REMARKS

Claims 1-25 are pending in this application. By this Amendment, claims 1 and 22 are amended and claim 25 is added. Reconsideration in view of the above amendments and following remarks is respectfully requested.

Applicants thank the Examiner for the indication that claims 9, 12-14 and 19-21 contain allowable subject matter.

The Office Action indicates that a Form PTO-892 is attached; however, Applicants did not receive the Form PTO-892. The Examiner is requested to attach a copy of the Form PTO-892 to the next communication.

The Office Action rejects claims 1-8, 10-11 and 15-18 under 35 U.S.C. §102(b) over Blurton et al. (U.S. Patent No. 4,127,462) (Blurton) and claims 22-24 under 35 U.S.C. §102(b) over JP-A-7-022047 ('047). Applicants respectfully traverse these rejections.

Specifically, Blurton teaches a device for the detection and measurement of noxious gases (Abstract) which includes a cathode 25, an anode 27 and a third electrode 29 used as a sensor (column 7, lines 29-32; Fig. 2). However, Blurton does not disclose or suggest a reference electrode that induces polarization between either the anode electrode and the third electrode or between the cathode electrode and the third electrode so as to lower activation energy of a cathode half-reaction or an anode half-reaction, as recited in independent claim 1 and as supported in the specification at page 1, lines 29-31. Accordingly, Applicants assert that Blurton does not disclose or suggest each an every feature of independent claim 1. As such, Applicants assert that independent claim 1 defines patentable subject matter.

Applicants also assert that claims 2-8, 10-11, 15-16 and 18 are allowable for their dependence on an allowable base claim as well as for other features, examples of which are given below.

Regarding the rejection of claim 10, Applicants assert that the third electrode 29 in Blurton, made out of platinum catalyzed PTFE, only allows the transport of electrons, not of ions. The role of Blurton's third electrode is to not interact with the chemistry of the anodes/electrolyte/cathode system. Therefore, there is no reason to allow ions to pass through it. Accordingly, Blurton's third electrode does not allow ions to be transported past it. In fact, a reference electrode made out of platinum simply cannot allow transport of ions. For this additional reason Applicants assert that claim 10 defines patentable subject matter.

Regarding the rejection of claim 17, Applicants assert that the disclosure, in Blurton, of "the electrolytes can be free flowing or trapped in a suitable matrix" does not mean or imply that the electrolyte is solid. In fact, Blurton teaches that "the electrolyte employed in the electrochemical cell of the present invention can be either an aqueous acid or aqueous alkaline solution" (col. 5, lines 34-36). As such, Blurton clearly teaches that the electrolyte is aqueous, unlike what is recited in claim 17. For this additional reason, Applicants assert that claim 17 defines patentable subject matter.

Regarding the rejection of independent claim 22 over '047, Applicants assert that '047 does not disclose or suggest a method for operating a fuel cell comprising applying an interactive feedback system to control the state of hydration of the ionomer membrane utilizing a third electrode other than an anode or cathode electrode, the third electrode being insulated from direct electrical contact with either the anode or cathode electrode by virtue of being embedded within an electrolyte, as recited in independent claim 22 and supported in the specification at page 1, lines 25-27.

Specifically, '047 teaches a method for controlling solid fuel cells wherein the flow rate of hydrogen or oxygen gas or the amount of humidification of the gas is adjusted (Abstract, lines 11-13). However, '047 simply uses the third electrode as a sensor, and teaches a third electrode only in contact with the gas phase (Fig. 4, gas manifold), not embedded within the

electrolyte, as recited in independent claim 22. Accordingly, '047 does not disclose or suggest each and every feature of independent claim 22. As such, Applicants assert that independent claim 22 defines patentable subject matter.

Applicants also assert that claims 23-24, at least for their dependence on allowable claim 22, also define patentable subject matter.

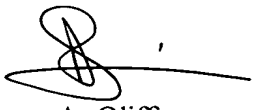
New claim 25, dependent on claim 22 and similarly to claim 10, also recites a third electrode that allows transport of ions. '047 discloses a platinum reference electrode that cannot allow transport of ions. Accordingly, Applicants assert that claim 25 defines patentable subject matter.

At least for the reasons discussed above, Applicants assert that claims 1-8, 10-11, 15-18 and 22-24 define patentable subject matter. Accordingly, Applicants respectfully request that the rejections of these claims be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-25 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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